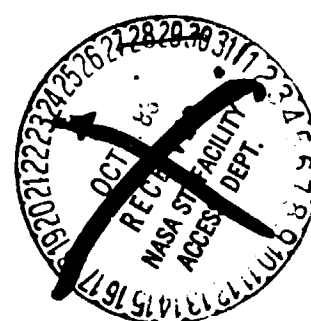


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POWER INFORMATION CENTER

(NASA-CR-174570) OPERATION OF THE POWER INFORMATION CENTER: PERFORMANCE OF SECRETARIAT FUNCTIONS AND INFORMATION EXCHANGE ACTIVITIES IN THE ADVANCED POWER FIELD OF THE INTERAGENCY (Franklin Research G3/82 15219 N84-11981 Unclass

ANNUAL REPORT, NUMBER V

CONTRACT NASW-3219

15 SEPTEMBER 1982 TO 14 SEPTEMBER 1983

NASA HEADQUARTERS
WASHINGTON, DC



Franklin Research Center

20th and Race Streets, Phila., Pa. 19103 (215) 448-1000

FRC Project No. 833-5050-01
15 September 1983

OPERATION OF THE POWER INFORMATION CENTER
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Period Covered:

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NATIONAL AERONAUTICS AND SPACE ADMINISTRATION
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Performance of Secretariat Functions and Information
Exchange Activities in the Advanced
Power Field for the Interagency Advanced Power Group

SYSTEMS TECHNOLOGY DEPARTMENT
of the
FRANKLIN RESEARCH CENTER
A Division of The Franklin Institute

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SUMMARY

The Franklin Research Center (FRC), a division of The Franklin Institute, operates the Power Information Center (PIC) of the Interagency Advanced Power Group (IAPG). The PIC facilitates the exchange of technical information among scientists and engineers both within the federal government and within industry by serving as the technical secretariat to the IAPG.

For the reporting period 15 September 1982 to 14 September 1983, activities of the PIC in its function as secretariat include the following highlights:

- Conducted two Steering Group meetings, and 17 Working Group and Panel meetings.
- Published 24 meeting agendas and 19 sets of minutes for IAPG meetings.
- Processed 332 project briefs
- Prepared press releases for dissemination to 2,027 organizations. These include engineering companies, government contractors, print media, research facilities, and technical and college libraries.
- Wrote several new computer programs to assist in record maintenance and material distribution.
- Sent 95 promotional packages to selected government employees in an effort to increase Working Group and Panel Membership.
- Expanded the Subject Index to include the title of every project brief listed under each term.
- Increased representation on IAPG working groups and panels by 31.

INTRODUCTION

Background Information

The Franklin Research Center (FRC), a division of The Franklin Institute, was awarded the contract for the operation of the Power Information Center (PIC) of the Interagency Advanced Power Group (IAPG) in September 1978. This fifth Annual Report, submitted under the provisions of contract NASW-3219, describes the work performed during the contract period 15 September 1982 to 14 September 1983. The IAPG is supported by the following member agencies: United States Army, United States Navy, United States Air Force, National Aeronautics and Space Administration (NASA), and United States Department of Energy (DOE). The IAPG Organization Chart is included in the Appendix.

Function

The primary function of the PIC is to facilitate the exchange of technical information in the advanced power field. The PIC, serving as the IAPG technical secretariat, accomplishes this information exchange among scientists and engineers, both within the federal government and within industry, as directed by the IAPG Steering Group or by the Chairman acting for the Steering Group by the following activities:

- Acts as a technical information center for power research, development, and engineering.
- Publishes and distributes monthly project briefs reporting on new and updated research and development in the various technical areas covered by the member agencies.
- Assists in the arrangements for, and in the operation of, IAPG Steering Group, Working Group, and Panel meetings and symposia.
- Provides technical and administrative services as required, and publishes proceedings of meetings and symposia.
- Provides the necessary technical and administrative services to manage Steering Group and Working Group functions between meetings in order to maintain the required continuity in IAPG operations.
- Prepares reports summarizing IAPG and PIC activities.

IAPG MEETINGS AND SPECIAL ACTIVITIES

Meetings Held

Between 15 September 1982 and 14 September 1983, the Steering Group held two meetings and the Working Groups and Panels held a total of 17 meetings. Table 1 lists these meetings, with locations and dates. The PIC published agendas and minutes for each meeting. All publications related to these meetings are listed in the Appendix.

Meetings Planned

For the period 15 September 1983 to 31 December 1983, the Steering Group has planned one meeting and the Working Groups and Panels have scheduled a total of eight meetings. Meetings for the remainder of the upcoming contract year will be scheduled in mid-December. Table 2 lists the meetings scheduled and the planned dates and locations.

Electrical Working Group Chairmanship

The position of Chairman of the Electrical Working Group has been vacant for some time. At the 21 October 1982 Steering Group meeting, the IAPG Steering Group approved of Mr. Timothy J. Doyle's announced interest to run for the vacant position. Mr. Doyle had asked that the Steering Group state its expectations for the prospective new Chairman. The Steering Group voiced the need for better coordination between the Power Conditioning and Superconductivity Panels, which have been operating independently since the position became vacant.

In addition, the Steering Group voiced the need to poll the working group membership for topic areas that are not being adequately reviewed by the current panels, and suggested that one or more new panels might have to be added to the working group. A letter was sent to all working group members on 14 February 1983 asking for additional panel topics. The results of this poll were a major topic at the Electrical Working Group meeting on 19 April 1983 at the David Taylor Naval Ship Research and Development Center in Annapolis, MD.

Mr. Doyle determined from the responses that two areas generated the most interest: pulsed power and rotating machinery. However, much power work is classified and there are already active interagency groups covering that area. Mr. Doyle suggested that the IAPG sponsor a topical meeting on rotating machinery. However, no meeting Chairman or sponsoring facility could be found. This suggested to Mr. Doyle that there was not a high enough level of interest in this topic in the IAPG to consider it any further, as no panel with such a low level of interest would be viable. As a result of this meeting, no new panels were added to the Electrical Working Group. However, Mr. Doyle will continue as the Electrical Working Group Chairman.

TABLE 1. MEETINGS HELD BETWEEN 15 SEPTEMBER 1982 AND 14 SEPTEMBER 1983

<u>Meeting</u>	<u>Date Held</u>	<u>Location</u>
Solar Working Group Solar Photovoltaic Panel	1 October 1982	Town & Country Hotel San Diego, CA
Electrical Working Group Power Conditioning Panel	13 October 1982	AFWAL Wright-Patterson AFB, OH
Systems Working Group	20 October 1982	NRL Washington, DC
Steering Group	21 October 1982	MERADCOM Fort Belvoir, VA
Nuclear, TE, TI Working Group	27 October 1982	DOE Germantown, MD
MHD Working Group	4 November 1982	DOE Germantown, MD
Mechanical Working Group Heat Engines Panel	9 November 1982	AFWAL Wright-Patterson AFB, OH
Mechanical Working Group Auxiliary Component, Panel	10 November 1982	AFWAL Wright-Patterson AFB, OH
Chemical Working Group IR&D Meeting	19 November 1982	NASA Goddard SFC Greenbelt, MD
Solar Working Group Solar Photovoltaic Panel	5 April 1983	SANDIA Albuquerque, NM
Chemical Working Group	13-14 April 1983	NSWC Silver Spring, MD
Nuclear TE, TI Working Group	15 April 1983	Franklin Research Center Philadelphia, PA
Electrical Working Group	19 April 1983	DTNSRDC Annapolis, MD
Systems Working Group	20 April 1983	MERADCOM Annapolis, MD
Mechanical Working Group Heat Engines Panel	25 April 1983	DOE Washington, DC

<u>Meeting</u>	<u>Date Held</u>	<u>Location</u>
Mechanical Working Group Auxiliary Components Panel	26 April 1983	DOE Washington, DC
Steering Group	27 April 1983	NSWC Silver Spring, MD
MHD Working Group	3-4 May 1983	MIT Boston, MA
Solar Working Group Solar Thermal Panel	15 June 1983	SERI Golden, CO

TABLE 2. MEETINGS SCHEDULED FOR 15 SEPTEMBER 1983 TO 31 DECEMBER 1983

<u>Meeting</u>	<u>Date Scheduled</u>	<u>Location</u>
Mechanical Working Group Heat Engines Panel	3 October 1983	MERADCOM Fort Belvoir, VA
Mechanical Working Group Auxiliary Components Panel	4 October 1983	MERADCOM Fort Belvoir, VA
Solar Working Group Solar Photovoltaic Panel	6 October 1983	SERI Golden, CO
Systems Working Group IR&D Meeting	12-13 October 1983	NASA Lewis Cleveland, OH
Electrical Working Group Power Conditioning Panel	19 October 1983	JPL Pasadena, CA
Steering Group	26 October 1983	MERADCOM Fort Belvoir, VA
MHD Working Group	2 November 1983	DOE Germantown, MD
Nuclear, TE, TI Working Group	3 November 1983	DOE Germantown, MD

Chemical Working Group IR&D Meeting

The Chemical Working Group sponsored an internal research and development (IR&D) meeting on 19 November 1982 at NASA Goddard Space Flight Center, Greenbelt, MD.

Every second fall this working group invites contractors to give proprietary presentations on their internal R&D programs to an all-government audience. Presentations are timed so contractors do not meet each other, nor do the contractors receive the minutes of the meeting or a list of the presentations given. IAPG members find IR&D meetings a useful way to learn the technical developments that might be worthy of their agencies support in the future.

Presentations at the fall 1982 meeting ranged from lithium battery safety to combined battery/fuel cell space-based power systems. Presentations were thirty minutes long, plus an additional five minutes for questions. A total of ten battery contractors participated.

Distribution of Unclassified CIA Documents to IAPG Members

One of the topics discussed at the 21 October 1982 Steering Group meeting was the possibility of greater involvement by the CIA in the activities of the IAPG. The distribution of unclassified CIA documents of interest to IAPG members was considered as one possible avenue of CIA cooperation.

Mr. William Sadler, the CIA liaison representative, obtained a copy of CIA Publications Released to the Public (PB82-929022) and sent it to the PIC staff for review. This document lists unclassified CIA documents dated between 1972 and 1981 available through the National Technical Information Service.

A review of the documents listed showed them to be of an economic and political nature, with no technical documents that would be of interest to IAPG members.

MHD Working Group Meeting

The spring MHD Working Group meeting was held on 3 and 4 May 1983 at the Francis Bitter National Magnet Laboratory at MIT in Boston, MA. This meeting was especially notable for the opportunity it gave the attendees to see experimental fusion and MHD hardware. Attendees saw parts of the TARA tandem machine and the Alcator C on 3 May. On 4 May the attendees toured the AVCO MHD facility at Everett, MA and saw the Mark VI and Mark VII MHD machines, as well as parts of MHD channels tested on these machines. Both the Mark VI and the Mark VII are 20 megawatt machines.

Nuclear, TE, TI Working Group Meeting

The spring Nuclear, TE, TI Working Group meeting was held on 15 April 1983 at the Franklin Research Center in Philadelphia, PA. This meeting was especially interesting because of the demonstration of a 500 watt, portable, silent, thermoelectric generator developed for the U.S. Army Electronics Research and Development Command. The generator burns a variety of fuels (gasoline, kerosene, methanol, etc.), weighs only 78 pounds, and is ideal for communication equipment and mobile power applications.

PROJECT BRIEFS

Project Briefs Processed

The PIC processed a total of 332 project briefs during the contract period 15 September 1982 to 14 September 1983. Of these, 82 were completed or cancelled, 180 were continuing, and 70 were new. Table 3 shows the distribution of active project briefs by working group and Table 4 shows the distribution by directing agency (that is, agency of the designated project engineer). Table 5 and Table 6 show the distribution of overdue briefs by agency and by working group.

Processing involves five basic tasks: 1) requesting updates of existing project briefs; 2) receiving updates and new briefs at the PIC; 3) keying changes/additions on both the Wang word processor and the DECsystem-20 computer; 4) receiving printouts and proofreading changes/additions; and 5) printing and distributing briefs.

Subject Index

Index terms have been assigned to all project briefs published since November 1979, and the automated production of a camera-ready yearly index was implemented. This cumulative alphabetized listing previously consisted of the designated subject terms and the associated project brief number. The index has now been expanded to include the title of every project brief number listed under each term. This additional information will assist the reader in his selection of appropriate programs to request for review, making the document a more useful information tool.

Microfiching of Completed Project Briefs

Hard-copy files of completed and cancelled project briefs are periodically microfiched to reduce storage space. All briefs completed or cancelled through August 1982 have been microfiched. Currently, approximately 3,000 briefs appear on microfiche.

TABLE 3. DISTRIBUTION OF ACTIVE PROJECT BRIEFS BY WORKING GROUP

Working Group	Number of Project Briefs*	Percent of 416 Briefs
CHEMICAL	116	27.9
ELECTRICAL	94	22.6
MECHANICAL	74	17.8
MHD	36	8.7
NUCLEAR	17	4.1
SOLAR	68	16.3
SYSTEMS	11	2.6
TOTAL	416	100.0

*A project brief may be assigned to multiple working groups.

TABLE 4. DISTRIBUTION OF ACTIVE PROJECT BRIEFS BY DIRECTING AGENCY

Directing Agency	Number of Project Briefs	Percent of 404 Briefs
AIR FORCE	61	15.1
ARMY	41	10.1
DOE	124	30.7
NASA	83	20.5
NSF	36	9.0
NAVY	59	14.6
TOTAL	404	100.0

TABLE 5. DISTRIBUTION OF OVERDUE* PROJECT BRIEFS BY WORKING GROUP

Working Group	Number of Active Briefs	Number of Overdue Briefs	Percent of Briefs Overdue
CHEMICAL	116	63	54.3
ELECTRICAL	94	63	67.0
MECHANICAL	74	50	67.6
MHD	36	21	58.3
NUCLEAR	17	11	64.7
SOLAR	68	52	76.4
SYSTEMS	11	7	63.6
TOTAL	416	267	64.1

*Overdue refers to briefs that have not been updated in the last six months.

TABLE 6. DISTRIBUTION OF OVERDUE* PROJECT BRIEFS BY DIRECTING AGENCY

Agency	Number of Active Briefs	Number of Overdue Briefs	Percent of Briefs Overdue
AIR FORCE	61	11	18.0
ARMY	41	25	60.9
DOE	124	105	84.7
NASA	83	56	67.4
NSF	36	15	41.6
NAVY	59	43	72.8
TOTAL	404	255	63.1

*Overdue refers to briefs that have not been updated in the last six months.

DEVELOPMENT

Enlargement of Working Group and Panel Membership

IAPG promotional kits were mailed to 53 government employees who expressed an interest in joining the IAPG. These persons were sent kits containing the "Joining the Interagency Advanced Power Group (IAPG)" letter, the organizational chart, the Interagency Advanced Power Group brochure, the Power Information Center brochure, and the Project Brief listing. The aim of this mailing was to encourage these individuals, some of whom have attended previous meetings, to join the IAPG and thus build the Working Group and Panel membership.

Press Releases

At the October 31, 1982 Steering Group meeting, the distribution of two new press releases was approved. One aims to encourage project brief subscriptions and was sent to 2,000 members of the private sector technical community; the other release aims to develop more interest in the IAPG and was sent to editors of 27 government publications. The overall purpose of these releases is to increase the public's awareness of the PIC and the IAPG, and to encourage Project Brief subscriptions. Mailing lists for these press releases have been categorized, and are maintained on the DECsystem-20 computer and the Wang word processor.

Expansion of the IAPG Membership

During the period of September 15, 1982 to September 14, 1983, representation on working groups and panels increased by 31. Twenty-seven of these additions are held by new IAPG members (the remaining four additions represent IAPG members who decided to join additional working groups or panels). A breakdown of new additions to IAPG membership is included in the Appendix.

CONCLUSIONS AND RECOMMENDATIONS

The visibility of the PIC and the IAPG continues to increase. New audiences have been targeted and audience-tailored publications prepared. We need to continue the promotion of the IAPG to strengthen and increase working group and panel membership and to obtain additional support from non-participating agencies. To achieve this goal, the PIC makes the following recommendations:

1. Promote the IAPG among the engineering community and high-level government officials.
2. Solicit additional contacts from IAPG members.
3. Prepare an invitational letter oriented toward high-level government officials for a Steering Group member's signature.

Delayed receipt of sufficient information for both new and updated project briefs is a continuing problem. The use of project brief coordinators has improved delivery to the PIC of the updates from some facilities, but the receipt of information on new projects still lags considerably behind the initiation of new work. To make improvements in this area, the PIC makes the following recommendations:

1. Request updates from project engineers and coordinators four times a year instead of two times a year.
2. Stress the need for updates at each meeting.
3. Obtain additional project brief coordinators.
4. Track new projects and request briefs from the project engineer.
5. Use the DD 1498 system to obtain supplemental information.

The PIC looks forward to increasing the distribution and exchange of information by implementing these recommendations in the ensuing contract period.

APPENDIX

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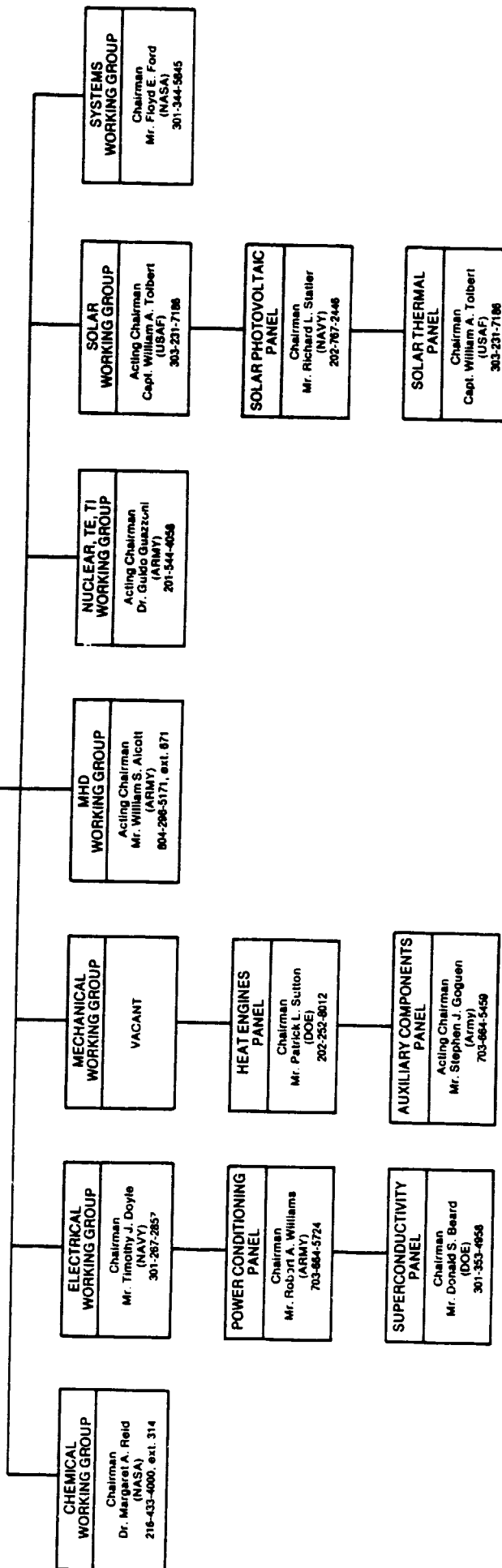
IAPG ORGANIZATION CHART

STEERING GROUP MEMBERS

Mr. Richard T. Sale (Chairman)
 Mr. Richard N. Bell
 Mr. Glenn R. Spalding
 Dr. Carl E. Mueller
 Mr. Roney J. Feast
 Mr. James D. Reams
 Mr. Jerome P. Mullin
 Dr. Judith H. Ambrus
 Mr. George B. Manning

**FRANKLIN RESEARCH CENTER — SECRETARIAT
POWER INFORMATION CENTER**

Director — William H. McKenzie — 215-448-1403
Deputy Director — Joyce E. Michelfelder — 215-448-1145
Meetings Coordinator — Sanford Z. Meschkow — 215-448-1506



LIST OF PIC PUBLICATIONS

15 September 1982 - 14 September 1983

<u>Meeting Notices</u>	<u>Meeting Date</u>	<u>Publication Date</u>
ELECTRICAL WORKING GROUP Power Conditioning Panel	13 October 1982	16 September 1982
SYSTEMS WORKING GROUP	20 October 1982	22 September 1982
STEERING GROUP	21 October 1982	21 September 1982
NUCLEAR, TE, TI WORKING GROUP	27 October 1982	1 October 1982
MHD WORKING GROUP	4 November 1982	8 October 1982
MECHANICAL WORKING GROUP Heat Engines Panel	9 November 1982	12 October 1982
MECHANICAL WORKING GROUP Auxiliary Components Panel	10 November 1982	12 October 1982
CHEMICAL WORKING GROUP IR&D Meeting	19 November 1982	22 October 1982
SOLAR WORKING GROUP Solar Photovoltaic Panel	5 April 1983	22 February 1982
CHEMICAL WORKING GROUP	13-14 April 1983	16 March 1983
NUCLEAR TE, TI WORKING GROUP	15 April 1983	17 March 1983
ELECTRICAL WORKING GROUP	19 April 1983	23 March 1983

PIC PUBLICATIONS (continued)

<u>Meeting Notices</u>	<u>Meeting Date</u>	<u>Publication Date</u>
SYSTEMS WORKING GROUP	20 April 1983	22 March 1983
MECHANICAL WORKING GROUP Heat Engines Panel	25 April 1983	20 March 1983
MECHANICAL WORKING GROUP Auxiliary Components Panel	26 April 1983	30 March 1983
STEERING GROUP	27 April 1983	30 March 1983
MHD WORKING GROUP	3-4 May 1983	5 April 1983
SOLAR WORKING GROUP Solar Thermal Panel	15 June 1983	24 May 1983
MECHANICAL WORKING GROUP Heat Engines Panel	3 October 1983	8 September 1983
MECHANICAL WORKING GROUP Auxiliary Components Panel	4 October 1983	8 September 1983
SOLAR WORKING GROUP Solar Photovoltaic Panel	6 October 1983	24 August 1983
SYSTEMS WORKING GROUP Systems IR&D Meeting	12 October 1983	9 September 1983
SYSTEMS WORKING GROUP	13 October 1983	9 September 1983
ELECTRICAL WORKING GROUP Power Conditioning Panel	19 October 1983	13 September 1983

PIC PUBLICATIONS (continued)

<u>Meeting Minutes</u>	<u>Meeting Date</u>	<u>Document Identifier</u>	<u>Publication Date</u>
SOLAR WORKING GROUP Solar Photovoltaic	1 October 1982	PIC-SOL-PV 3/11	26 October 1982
ELECTRICAL WORKING GROUP Power Conditioning Panel	13 October 1982	PIC-ELE-PC 3/25	15 November 1982
SYSTEMS WORKING GROUP	20 October 1982	PIC-SYS 3/12	24 November 1982
STEERING GROUP	21 October 1982	PIC 3/50	23 November 1982
NUCLEAR, TE, TI WORKING GROUP	27 October 1982	PIC-NUC 3/30	7 December 1982
MHD WORKING GROUP	4 November 1982	PIC-MHD 3/20	13 December 1982
MECHANICAL WORKING GROUP Heat Engines Panel	9 November 1982	PIC-MEC-HE 3/3	17 December 1982
MECHANICAL WORKING GROUP Auxiliary Components Panel	10 November 1982	PIC-MEC-AUX 3/3	20 December 1982
CHEMICAL WORKING GROUP IR&D Meeting	19 November 1982	PIC-BAT 3/38	28 December 1982
SOLAR WORKING GROUP Solar Photovoltaic Panel	5 April 1983	PIC-SOL-PV 3/12	25 May 1983
CHEMICAL WORKING GROUP	13-14 April 1983	PIC-BAT 3/39	7 June 1983

PIC PUBLICATIONS (continued)

<u>Meeting Minutes</u>	<u>Meeting Date</u>	<u>Document Identifier</u>	<u>Publication Date</u>
NUCLEAR TE, TI WORKING GROUP	15 April 1983	PIC-NUC 3/31	3 June 1983
ELECTRICAL WORKING GROUP	19 April 1983	PIC-ELE 3/19	29 June 1983
SYSTEMS WORKING GROUP	20 April 1983	PIC-SYS 3/13	14 June 1983
MECHANICAL WORKING GROUP Heat Engines Panel	25 April 1983	PIC-MEC-HE 3/4	6 July 1983
MECHANICAL WORKING GROUP Auxiliary Components Panel	26 April 1983	PIC-MEC-AUX 3/4	6 July 1983
STEERING GROUP	27 April 1983	PIC 3/51	15 July 1983
MHD WORKING GROUP	3-4 April 1983	PIC-MHD 3/21	26 July 1983
SOLAR WORKING GROUP Solar Thermal Panel	15 June 1983	PIC-SOL-TH 3/8	29 July 1983

PIC PUBLICATIONS (continued)

<u>Project Brief Indexes</u>	<u>Document Identifier</u>	<u>Publication Date</u>
IAPG Project Briefs by Field of Interest	PIC 229.3.1/26 PIC 229.3.1/27 PIC 229.3.1/28	October 1982 January 1983 July 1983
Active Programs by Directing Agency (Goldenrod)	PIC 229.4/-	A total of 16 were published in support of Working Group and Panel meetings.
IAPG Completed and Cancelled Programs	PIC 228.3/13	January 1983
Project Brief Subject Index November 1979-December 1982	PIC 270/3	January 1983

PIC PUBLICATIONS (continued)

<u>Publication</u>	<u>Publication Date</u>
<u>IAPG Membership Roster</u>	October 1982 January 1983 April 1983 July 1983
<u>Organization and Procedures</u>	
Operation of The Power Information Center, Annual Report IV. Contract NASW-3219. Period Covered: 15 September 1981 to 14 September 1982	12 October 1982
Operation of the Power Information Center, Semiannual Report Number IV. Contract NASW-3219. Period Covered: 15 September 1982 to 14 March 1983	15 April 1983
IAPG Meeting Schedule Calendar - Fall 1982	September 1982
IAPG Meeting Schedule Calendar - Spring 1983	February 1983
IAPG Monthly Project Briefs	Monthly September 1982 through August 1983
<u>Press Releases:</u>	
Interagency Advanced Power Group Invites New Members to Keep Up With Power Research	October 1982 March 1983
Dear Colleague	February 1983
Reports on Government-Funded R&D Now Available to the Public	September 1982

NEW ADDITIONS TO IAPG MEMBERSHIP

<u>Name</u>	<u>Membership</u>
Mr. William S. Aicott* USA Foreign Science and Technology Center	Power Conditioning Panel Auxiliary Components Panel
Mr. David Buden Los Alamos National Laboratory	Nuclear Working Group
Mr. Floyd W. Crouse, Jr. DOE Morgantown Energy Technology Center	Heat Engines Panel Auxiliary Components Panel
Mr. Robert N. DeWitt Naval Surface Weapons Center	MHD Working Group
Mr. Timothy Doyle* David W. Taylor Naval Ship R&D Center	Power Conditioning Panel
Mr. Stephen J. Goguen USA Mobility Equipment R&D Command	Auxiliary Components Panel
Mr. Daniel Groghan Naval Sea Systems Command	Auxiliary Components Panel Heat Engines Panel
Captain Johnnie L. Hansen DOE-AFESC Energy Liaison Office	Nuclear Working Group
Mr. Stephen A. Hathaway Headquarters Air Force Engineering and Service Center	Nuclear Working Group
Dr. Robert E. Holtz Argonne National Laboratory	Nuclear Working Group
Mr. A. W. Jackson Brookhaven National Laboratory	Power Conditioning Panel Superconductivity Panel Photovoltaic Panel Solar Thermal Panel
Mr. Howard Jones Air Force Wright Aeronautical Laboratories	Auxiliary Components Panel
Dr. Larry L. Kazmerski Solar Energy Research Institute	Photovoltaic Panel
Mr. Francis Scott LeBeau USA Foreign Science and Technology Center	Nuclear Working Group

*A current member who has joined an additional working group or panel.

NEW ADDITIONS TO IAPG MEMBERSHIP (Continued)

<u>Name</u>	<u>Membership</u>
Mr. Douglas Maron Naval Sea Systems Command	Auxiliary Components Panel Heat Engines Panel
Mr. Larry Rogers David W. Taylor Naval Ship R&D Center	Systems Working Group
Mr. Robert C. Smith David W. Taylor Naval Ship R&D Center	Power Conditioning Panel
Mr. Gerhard Stapfer NASA Jet Propulsion Laboratory	Nuclear Working Group
Mr. Michael Tasevoli NASA Goddard Space Flight Center	Systems Working Group
Mr. Julian Tishkoff Air Force Office of Scientific Reserach	MHD Working Group Heat Engines Panel Auxiliary Components Panel
Mr. Howard Weiner* The Aerospace Corporation	Chemical Working Group
Major John A. Vonada Air Force Systems Command, Andrews AFB	Heat Engines Panel

*A current member who has joined an additional working group or panel.